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(4 AND 3).PGPB,USPT,EPAB,JPAB,DWPI,TDBD.	3
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- US Pre-Grant Publication Full-Text Database
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Search:

L11

Refine Search

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Search History

DATE: Wednesday, July 14, 2004 [Printable Copy](#) [Create Case](#)

Set Name	Query	Hit Count	Set Name
side by side			result set
DB=PGPB,USPT,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=ADJ			
L11	l3 and l4	3	L11
L10	l8 and L9	1	L10
L9	tim\$3 near2 control	296990	L9
L8	l6 and L7	3	L8
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L5	risk near2 potential	5496	L5
L4	risk near2 potential near4 direction	10	L4
L3	l1 and L2	1345	L3
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L1	(driver or operat\$3) near2 assist\$4	29663	L1

END OF SEARCH HISTORY

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L8: Entry 3 of 3

File: USPT

Feb 24, 1998

DOCUMENT-IDENTIFIER: US 5721679 A

TITLE: Heads-up display apparatus for computer-controlled agricultural product application equipment

Brief Summary Text (13):

Regardless of the type of application procedure being undertaken, it is a practical necessity that some data or information be presented or displayed to the operator of the equipment during the procedure. There will usually be a minimal subset of data or information that must be presented to ensure proper application, and an expanded subset of optional information that may be made available to an operator. The expanded subset may include information that assists the operator in optimizing the system's performance, or data which may simply be of interest to the operator. The expanded subset may also include information that would augment the operator's knowledge or understanding about the particular field, or would have a subjective impact on the operator's perception of the field's condition or characteristics. This information may also prompt the operator to recognize previously unappreciated relationships or correlations regarding the field, particularly those involving historic or longitudinal information, and the system may allow the operator to interact with the agronomic plan to input information in response to this recognition in a manner that adds relevant information, algorithms, relationships, or expert system information to the GIS database or agronomic plan for later analysis and use.

Detailed Description Text (10):

The animated map display 38 may also include references to various terrain-related objects 46 or conditions, such as fixed or movable physical structures (buildings, electrical towers or telephone poles, fencing, irrigation equipment, other vehicles carrying transponder elements, etc.), natural features (trees, terracing, etc.), geological or environmental features (lakes, rivers, creeks, hills, valleys, gullies, etc.), field boundaries, roadways, and any other terrain-related objects 46 or conditions that would aid in navigation or spatial referencing, present obstacles or hazards to the vehicle or operator, require real-time adjustment of the product application equipment (for example, based upon wind speed and direction when applying a liquid product), or which could potentially provoke a subjective recognition or appreciation of an agronomic relationship by the operator. In addition, other data such as historic yield information, pest population data, groundwater conditions, or other information may be projected with or as part of the animated map display 38 to elicit the subjective recognition of a previously unappreciated agronomic relationship by the operator 12.

Detailed Description Text (32):

Although generally cost-prohibitive for use in a computer-controlled agronomic system at the current time, other types of equipment may be utilized to fabricate the heads-up display 48 apparatus as disclosed herein. For example, a thin-film active- or passive-matrix liquid crystal display screen that conforms substantially in shape and size to the field of view 54 of the operator 12 at the position of the windshield 16 may be attached to or disposed immediately in front of the windshield 16 to present the animated map display 38. Alternately, a head-mounted VR display

apparatus could be utilized, however the majority of current designs for commercially available head-mounted VR displays that would be economically feasible for this application are not deemed suitable for use in a self-propelled vehicle due to potential risks associated with disorientation, inner ear structure (IES) induced nausea, damage to or impairment of visual acuity due to long-term or extended use, or the relative opacity of the screen (i.e., lack of adequate "see-through" capabilities). However, some commercial systems such as are currently being utilized for projecting televised images onto head-mounted displays similar to conventional eyeglasses may prove suitable for some applications.

CLAIMS:

11. The improvement of claim 10 wherein the information contained in the portion of the map being projected in the field of view of the operator overlaid onto the real-world terrain comprises:

navigational information to assist the operator in navigating the vehicle throughout the field.

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